Southern Pacific Bulletin

DECEMBER 1921

HOSPITAL
DEPARTMENT
NUMBER

Pacific System's Big Human Repair Plant

Hospital Department Service of Southern Pacific Leads. General Hospital is One of the Finest in the World

By **LOGAN W. EIB**, Secretary, Hospital Department

BLAZING the trail, as it has done in numerous other activities, the Southern Pacific Company, then the Central Pacific, was the first railroad organization to establish a Hospital Department and erect a hospital building exclusively devoted to the care of railway employes. This was done in 1867, and, while practically all large railroad systems and industrial establishments in the United States are following the lead of the Southern Pacific Company by establishing similar departments in varying degrees, our own still retains the lead in its scope of activities.

The department furnishes the same care and attention to all employes, regardless of rank or where located throughout the entire Pacific System, covering nine thousand miles of road and reaching into six different states.

To care for its patients the Hospital Department has assigned to each operating division Division Surgeons, District Surgeons for the less important but large points, and Emergency Surgeons for the smaller points. Thus a representative is available at every station where a surgeon resides.

Compensation of Division and District Surgeons is based on the amount of service rendered and are furnished transportation on the same basis, while Emergency Surgeons are paid on a fee schedule, but receive no transportation.

435 Doctors on Staff

The department has on its staff 415 physicians and surgeons and 20 specialists and operates a general hospital in San Francisco of 250 bed capacity and 14 emergency hospitals or first aid stations. Besides these there are six regular "contract" hospitals at division terminals with which it has arrangements for the care of its cases. In emergencies when the general or division "contract" hospitals cannot be reached local hospitals are used. All cases requiring hospital care, however, are transferred to General Hospital at once if such movement can be made with safety and comfort to the patient. Otherwise, they are cared for in local hospitals until proper transfer can be accomplished, necessary attendants, professional or lay, in either instance being furnished by the department, as well as pullman accommodations and maintenance en route. The wisdom of this can readily be recognized—the inestimable advantage of consultation and attention by a complete staff of physicians, surgeons and specialists, having been specially experienced in the various branches of the healing art; hospital facilities far superior to any to be had elsewhere, in the West at least; the therapeutic value of the San Francisco climate and many other advantages too numerous to mention.

DR. F. K. AINSWORTH

Chief Surgeon and Manager, Hospital Department

Exclusive of the visiting staff there are 115 officers and employes in the General Hospital, being practically one employe to two patients, a ratio reached only in private hospitals operated for profit. The visiting staff consists of seven physicians and surgeons, one oculist and one aurist; the consulting staff, two physicians and surgeons, one oculist, two aurists, one urologist, one dermatologist, one nerologist, one orthopedic surgeon and one radiologist. All nurses are graduates.

Emergency Hospital Facilities

The emergency hospital at Sacramento contains 24 beds, is fully equipped in every way, with two visiting physicians and surgeons, one oculist and aurist, resident physician, three graduate nurses and druggist. Other emergency hospitals (with but two exceptions) contains three beds, with a graduate nurse in charge and on duty during working hours and a visiting physician and surgeon. In addition to these first aid stations, which are located at shop points and within shop yards where feasible, quite elaborate emergency medical and surgical boxes, containing first aid dressings and simple medicines, are furnished and maintained at shops, roundhouses, power plants, on steamers, depots, section and construction gangs, etc.—some 500 in number. Still further material in the way of first aid to the injured is furnished through small boxes installed in all baggage cars and cabooses and to small maintenance of way, bridge and buildings and other gangs—more than 2000 of these now being in service.

At points where Emergency Hospitals or First Aid Stations are located all injury cases, no matter how trivial, must be sent there at once for attention, thus preventing untold suffering and possibly unnecessary loss of eyes and limbs through the unskillful treatment by the so-called "shop doctor," or neglect until serious consequences may have arisen. Aside from this feature, the saving of time to both the employes and Company is quite a consideration.

It is also the department's duty to see that proper sanitation is maintained over the System and that water furnished to employes and passengers for domestic purposes is free from health hazards.

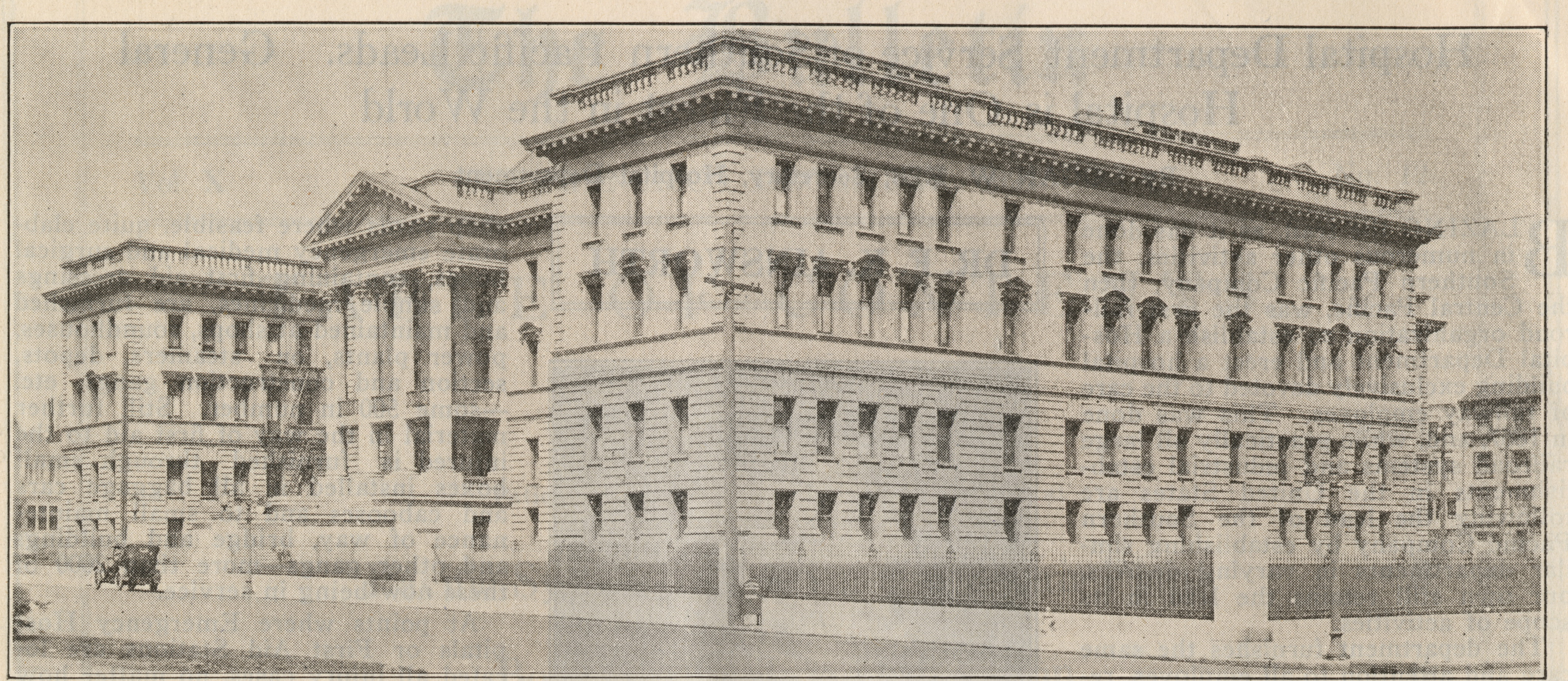
Activities During 1920

Some idea of the activities of the department may be gleaned from the following, representing the calendar year 1920:

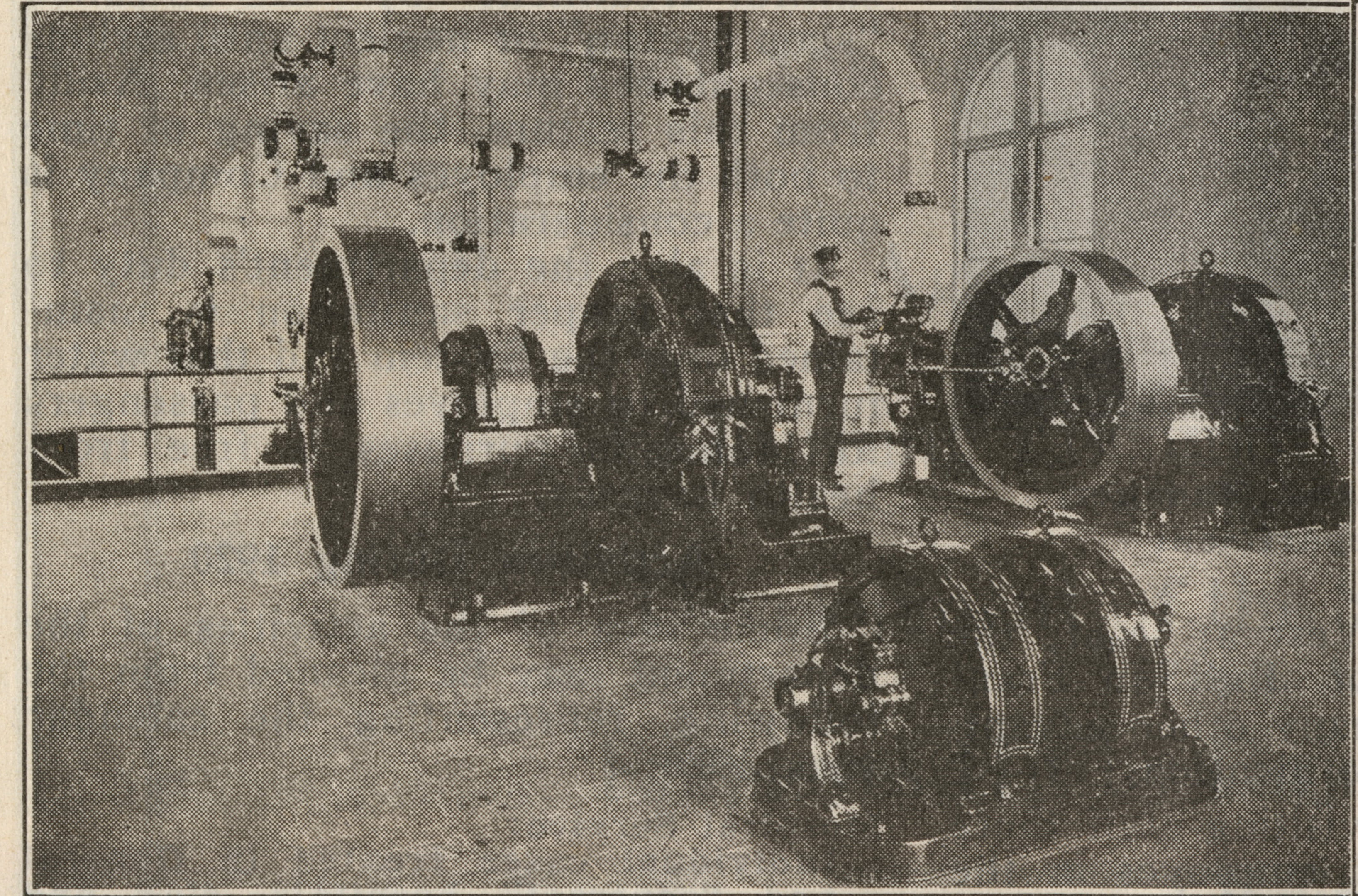
Hospital Service:	
Individual cases treated in General and "contract" hospitals, sick and injured,	3,532
Days treatment,	84,854
Outside service:	
Cases treated at offices and residences	95,763
Office visits	155,415
Residence visits,	14,537
Emergency Hospital service	
Cases treated,	28,386
Visits,	52,825
Emergency and First Aid Box service:	
Cases treated,	11,820
Treatments,	12,030
Examinations made of applicants for employment to determine their fitness for the various branches of the service and to protect fellow employes and the traveling public	29,273

No distinction is made between injuries sustained on and off duty and in the General Hospital we are never without a dozen or more serious injury cases from automobile and motorcycle accidents. Certain reasonable restrictions as to care, of course, must be made and under our most reasonable rules benefits are not given for chronic diseases or disabilities acquired before

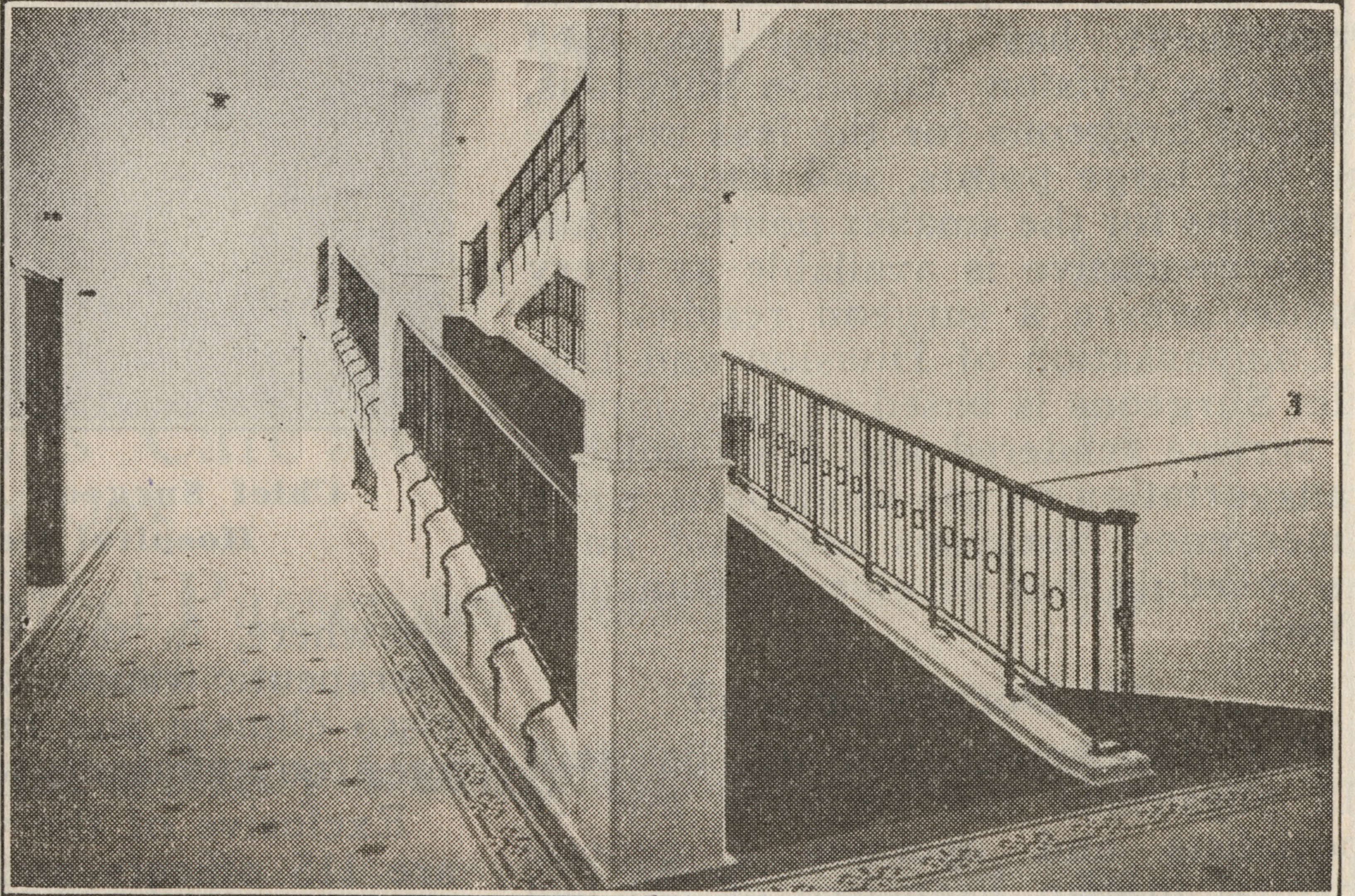
Where Sick and Injured Are Restored



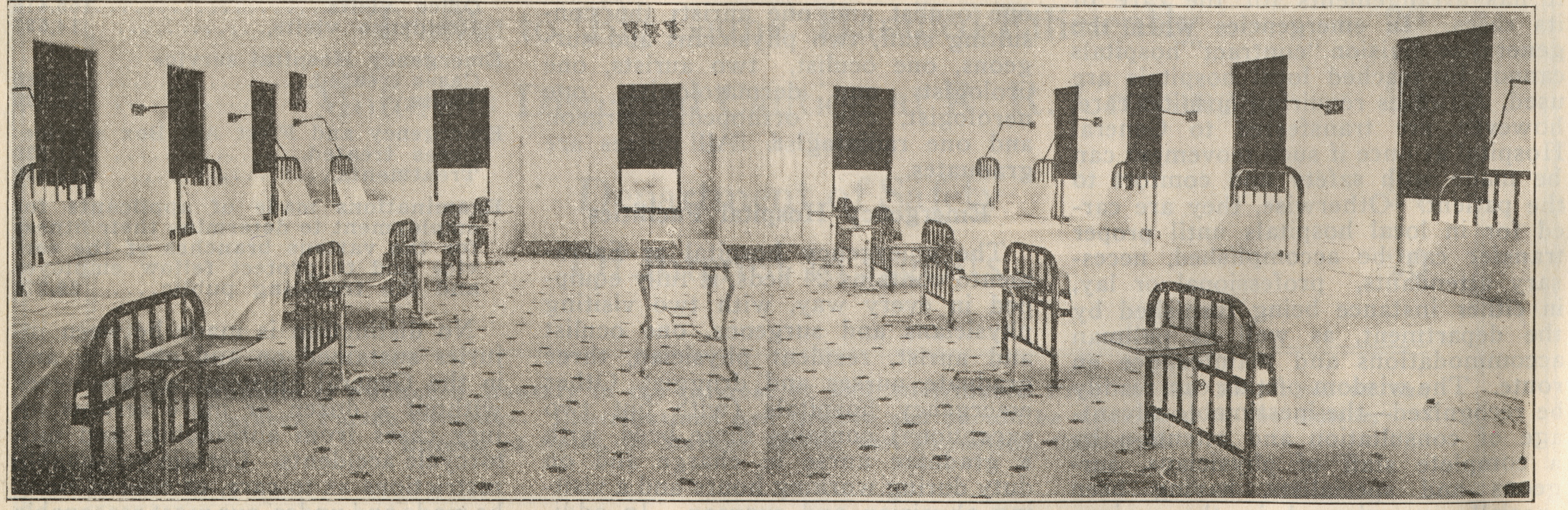
The main building of the General Hospital, San Francisco, which ranks with the finest institutions of its kind in the world. It was constructed at a cost of one million dollars in 1909 for the exclusive use of Southern Pacific employes.



The main engine room is quite an extensive plant in itself, and the engineering facilities are of the most modern type.



Inclines take the place of stairways from the first floor to the roof. These are supplemented by a suitable elevator system.



One of the twelve-bed wards of the General Hospital. Simplicity is the keynote of the interior, this making for sanitation, convenience and efficiency of management.

employes entered the company service, nor for conditions due to venereal diseases, vicious habits or those incurred in unlawful acts. It would be manifestly improper and unfair to expend the department's revenue in the care of such cases.

Officers' and Employes' Dues

The work of this department is, in a large measure, sustained through the collection of hospital dues from all officers and employes of the company, such dues being collected through pay roll deductions. But one increase has been made in dues since the department's inception in 1867 and that in March, 1920, when they were increased from the uniform deduction of 50 cents per month to the following graduated scale:

Those receiving under $85 per month	50c
Those receiving $85 and under $125	65c
Those receiving $125 and over	75c

For the nominal fees above quoted employes are entitled to and receive all necessary medical and surgical attention at either their residences, surgeons' offices or hospital, together with hospital care, nursing and maintenance, medicines, surgical dressings, artificial limbs and appliances—in fact, everything that enters into the bill of expense when misfortune in the way of sickness or accident befalls us.

The increase in dues would not have been made except for absolute necessity, due, in a measure, to the enormous increase in cost of everything purchased for the care of the sick and injured, but more particularly to the demand of our surgeons over the system for compensation at least approximately commensurate with the amount and quality of services rendered. Some notion of the increased burden may be gained through the fact that the cost of operation of the General Hospital, San Francisco, alone, exclusive of professional services, rose from $400 per day in 1914 to $800 in 1920. With the revenue made available through the really negligible increase in dues we were able to fairly well satisfy the most reasonable demand of our surgeons, though many of them are not yet receiving just recognition for their invaluable services. However, we hope to be able to carry on until expenses in other directions have more nearly reached a pre-war basis, thus releasing some of our revenue which may be applied to them, as well as providing for our ever extending service.

The Company's Part

A large share of the expense of operating our hospital department is borne by the company itself and it is only through its assistance, both financial and otherwise, that it is possible to render to employes the class of service they now receive for a meager monthly sum. How helpful the company is in maintaining this department will be evident when it is considered that the department is afforded, absolutely without cost, the free use of each and every department of the company—the treasury by collecting the dues and paying our bills; the auditing, by keeping detail accounts of our transactions; the freight, by transporting our necessities, the telegraph, by handling our necessarily heavy wire business, etc. Free transportation is supplied in the movement of patients and their attendants and to surgeons and their families to the value of many thousands of dollars yearly, (in the calendar year 1920 its actual cash value was $124,268.89). In addition to all this, the company makes a very liberal contribution in cash.

Our story would not be complete without a short description of the General Hospital plant at San Francisco, completed in 1909. Details of its construction and equipment are credited to Dr. Ainsworth, chief surgeon and manager, who is credited with the many fine features embodied in this wonderful institution. Occupying a city block, it is unquestionably one of the finest and best equipped institutions in the world and is ideally located near the "Panhandle" of Golden Gate Park which with its eleven hundred acres of fairyland afford an unrestricted recreation for ambulatory cases.

Cost a Million Dollars

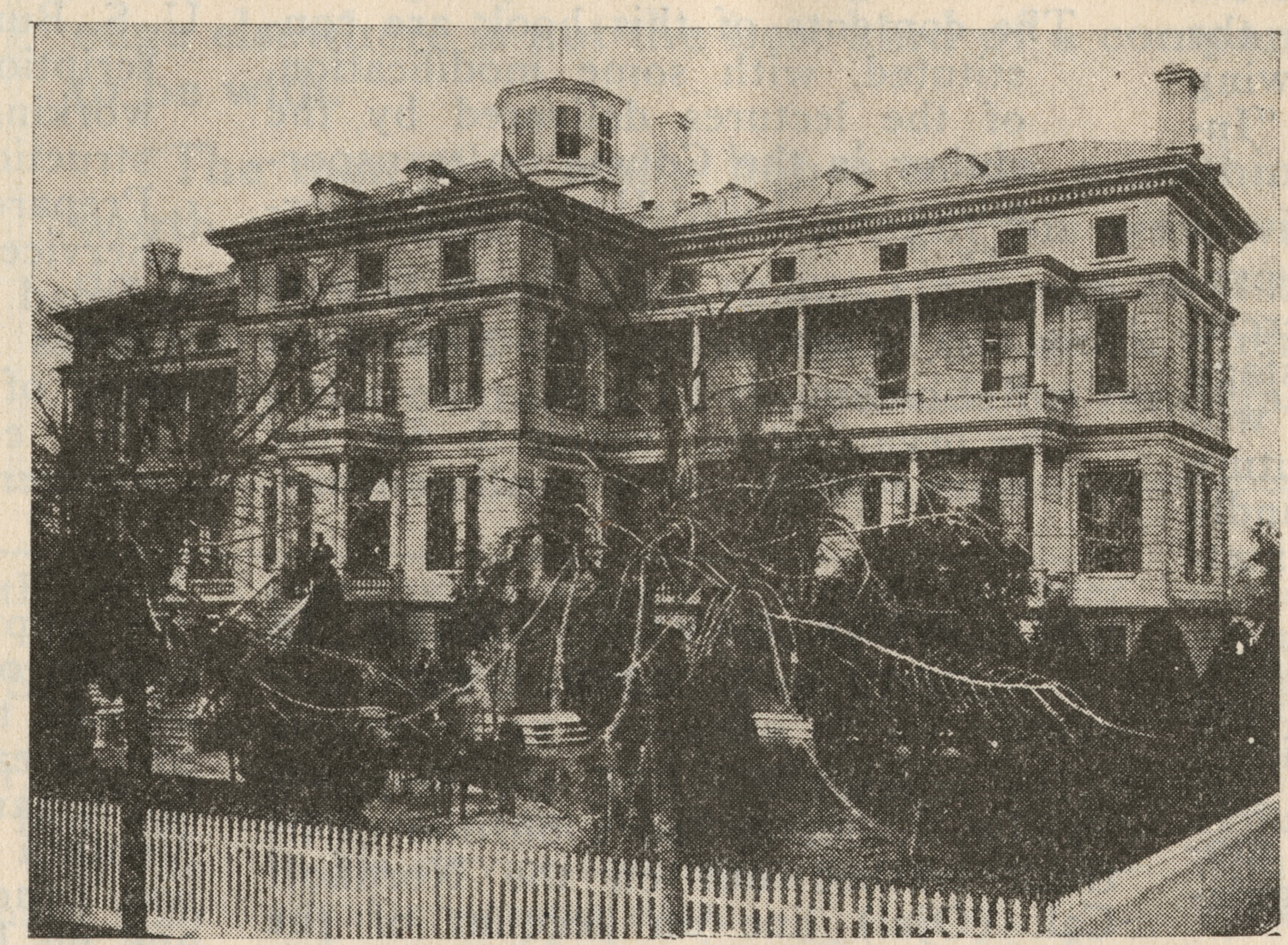
A round million of money went into this great human repair shop, consisting of a series of buildings of re-enforced concrete with ornamental brick walls. The main building, or hospital proper, is four stories in height and forms a huge letter E. To the rear of this are lesser structures, similar in design, consisting of a power house, Huntington Social Hall and employes building, the first floor of which houses the laundry, carpenter and paint shops and the medical and surgical supply department. On the first floor of the main building the departments of radiography, mechanotherapy, electrotherapy, thermotherapy, hydrotherapy and massage, dispensary, kitchens and dining rooms are located. In the mechanotherapy department are appliances for the quick repair of the injured not to be found in any similar institution on the Pacific coast. Improvements in radiographic equipment, both for making pictures, examination and treatment of patients have been so numerous and rapid that it is up to date not more than two or three years. Since the hospital was opened in 1909 two sets have been scrapped and later models supplied and the third representing the "last word" in this class of equipment has only recently been installed at a cost of $7,500.

The center of the second floor contains the administrative offices, dressing and examination rooms, library, staff rooms and eye and ear department. Wards and rooms are located in each wing.

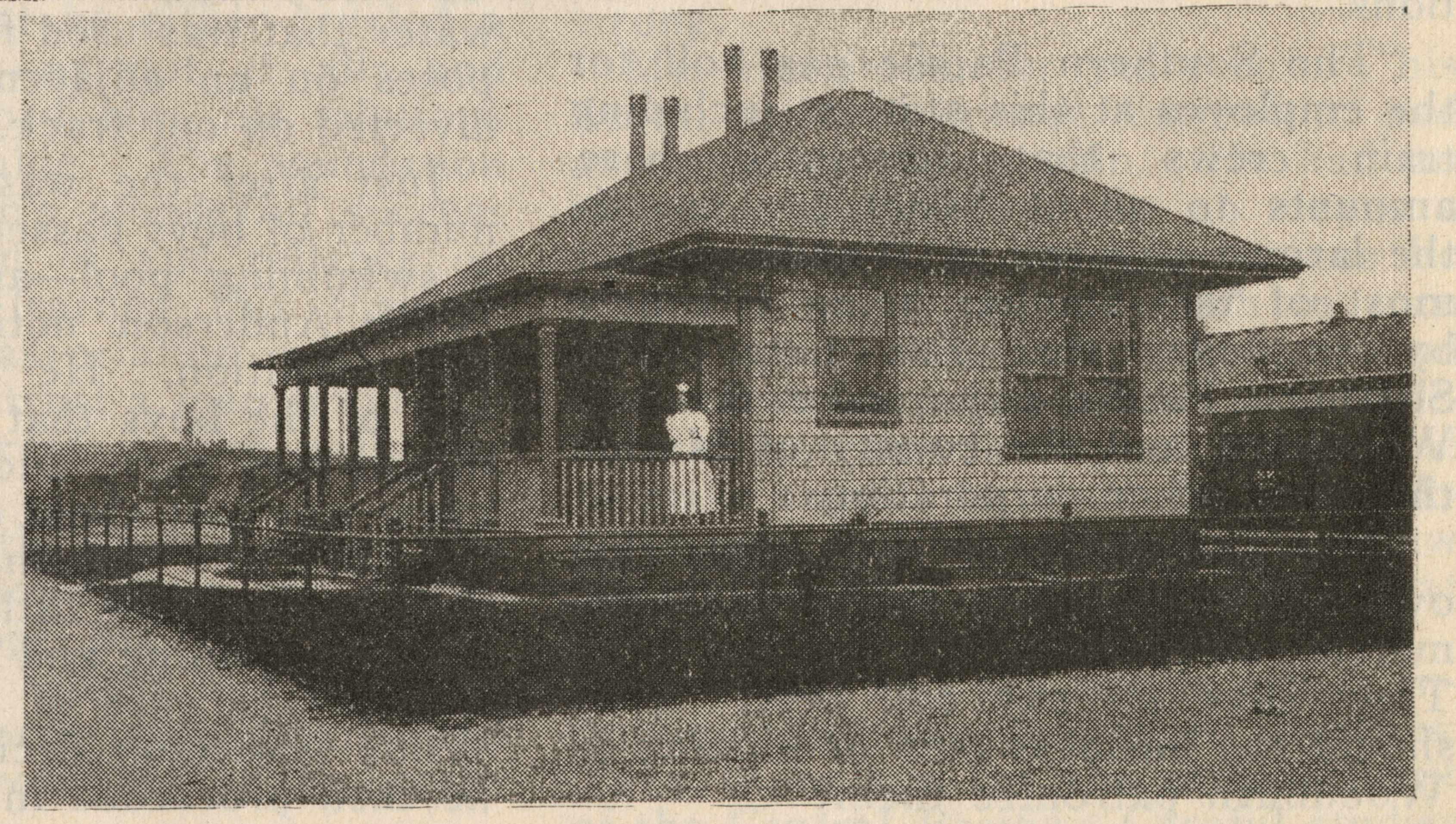
The third floor consists of wards and rooms, with necessary diet kitchens and supply rooms only.

The fourth floor contains wards and rooms and a most completely equipped and up-to-date operating department.

On the spacious glass-screened roof is accommodation for open air treatment for twenty-five patients, where they sleep, eat and live in the glorious open air. Here the pathological and research



The first hospital ever built for the exclusive use of railroad employes. It was erected by the Company at Sacramento in the early seventies.



Yard Emergency Hospital, Oakland, Cal. This is the standard type located at various points on the Pacific System.

laboratories of the department are located.

Finest Modern Construction

There are no wooden floors throughout the building, the floor space being entirely covered by tiling, as are all corridor walls to the height of four feet. There are no staircases in the main building, but an incline leading from first floor to the roof so that patients and employes may move freely through the building. The walls and ceilings are enameled and the woodwork is of prima vera, with one panel doors throughout, thus eliminating all corners and crevices for the collection of dust.

The Huntington Social Hall, provided for the benefit of convalescent patients, was the gift of Mr. and Mrs. H. E. Huntington as a memorial to Collis P. Huntington, for many years president of the Southern Pacific Company.

Th research laboratory on the roof is maintained by an endowment set aside by Mrs. E. H. Harriman in memory of her husband.

The large Emergency Hospital at Sacramento was a gift to the Southern Pacific Company by the Crocker Estate Company.

AGENT AIDS NEWSPAPER IN MOVE AGAINST JITNEYS

P. G. Vickers, Agent at Woodburn, Ore., joined the great number of Southern Pacific Company employes who have been directing public attention to unfair competition from auto buses and trucks, provided the information upon which the following recent article in the Woodburn "Independent" was based:

"Southern Pacific employes in Woodburn have been organized to promote a campaign against commercial auto trucks and passenger auto stage lines. Railroad labor unions here will hold a joint meeting in the near future to organize one large union to handle this campaign and take up other matters of interest to the railroads.

"The Southern Pacific employes maintain that the trucks and stages are menacing the railroad business and may throw many men out of employment. They demand that the motor vehicles be placed under regulations.

"The Southern Pacific pay roll for the employes at this station, including train crews that terminate here, amounts to about $4000 per month, the largest pay roll in Woodburn, the most of this amount being left here by employes that live here. The Southern Pacific pays more taxes in Woodburn and the county of Marion than any other corporation.

"The companies or individuals that own and operate the stages and commercial auto trucks do not live here. They have no pay roll here. Why should the business men or citizens of Woodburn patronize them?"

Books on Railroad Operation

AT THE request of the Southern Pacific "Bulletin," the following list of books is suggested by the Bureau of Railway Economics, Washington, D. C., for study by railroad employes interested in the theory and practice of railroading:

Economics of Railway Operation, by M. L. Byers, The Engineering News Publishing Company, New York.
- Part I: Organization.
- Part V: Economics operation.
- Part VI: Analysis of operations and control of expenses.

Railway Organization and Working. A series of lectures delivered before the railway classes of the University of Chicago, edited by Ernest Ritson Dewsnup, Chicago. The University of Chicago Press.
- This volume is published under the auspices of the Advisory Board on Railway Education.

Freight Terminals and Trains, by J. A. Droege, including a revision of Yards and Terminals. New York, McGraw-Hill Book Company.

Passenger Terminals and Trains, McGraw-Hill Book Company, Inc., N. Y.

Efficiency Railway Operation, by H. S. Haines. The MacMillan Company, New York.

The Working of the Railroads, by L. G. McPherson. H. Holt & Co., New York.
- The contents of this book are constituted, with some modification, of the lectures delivered by the author in the Course on transportation at John Hopkins University.

Railroad Administration, by Ray Morris. D. Appleton & Co., New York and London.
- The organization required for the management of a small railroad, contains discussion on operating and other departments of a road fifty miles long, with charts, and brief descriptions of duties and responsibilities of the various officers.
- Chapter III: The organization of a large railroad, discusses various types of organization of American railroads.

Chapter V: The Officers: discusses duties of officers of railroads.

Railway Organization and Management, by Jas. Peabody. LaSalle Extension University, Chicago.

Operation of Trains and Station Work and Telegraphy, by Frederick J. Prior. F. J. Drake & Co., Chicago.
- Standard Code Train Rules, includes Rules for single track, and Rules for movement by train orders.
- Trainmen's Examination.
- Rulings of American Railway Association.
- General Rules for operation on trains and handling of freight and passengers.

Railroad Operating Costs; a series of original studies in operating costs of leading American railroads. Suffern & Son, New York.

Railroad Operating Costs arranged to include the operations of 1911. A continuation of studies in operating costs of the leading American railroads.

U. S. Bureau of Labor Statistics.—Descriptions of Occupations. Metal working, building and general construction, railroad transportation. Prepared for the U. S. Employment Service.

Railroad Transportation Occupations—Gives kindred occupations, description of job, qualifications for same, and educational requirements for different branches of railroad service.

LAD WHO SAVED TRAIN IS NOW S. P. EMPLOYE

On January 21, 1917, the Southern Pacific Company had a portion of its track washed out on the Nordhoff Cal. (Ojai) line on account of the water that was used for irrigating purposes on an adjacent orchard being diverted on our track.

Just after the washout occurred a number of boys passed on their way to a swimming pool—and one of them, Willie Anderson, noticed this dangerous condition. He remarked to the rest of the boys that he thought they should stay there and stop a train he knew was just about due. The rest of the boys told him that on account of their having very little time they were going swimming and thought the train should take care of itself. However, Willie Anderson decided to stay, and he then proceeded in the direction of the approaching train for about a quarter of a mile, stopped the train and advised them of the dangerous condition ahead. The train crew took the boy's name and upon their arrival at Ventura reported the matter. This was handled thru the proper channels and on February 17th, 1917, Superintendent W. H. Whalen at Ventura presented Willie Anderson with a gold watch and chain. On the back of the watch was inscribed:

"Presented to William Austin Anderson of the Southern Pacific Company in appreciation of his avoiding an accident on January 21, 1917."

Since that time Willie Anderson has completed his schooling and served three years as machinist apprentice—and on October 4, 1921, he entered the employ of the Southern Pacific Company in the Los Angeles Shops in order that he may complete his apprenticeship and continue in the employ of the Southern Pacific Company.

Development of the Steel Passenger Coach

Company One of the Early Pioneers in Construction of the Modern Coach to Anticipate Demands of the Traveling Public

By **L. A. MITCHELL,**
Chief Passenger Car Draftsman

THE advent of the steel passenger car dates back to 1902, at which time there appeared an Illinois Central suburban car of composite wood and steel construction. The following year brought forth a steel electric car for the Interborough Rapid Transit Company of New York.

The Standard Steel Car Company in 1904 built for the Erie Railroad a sample steel baggage car which was generally considered the first all-steel car for main line service. A steel postal car for the same railroad and by the same carbuilder was exhibited at the International Railway Congress at Washington in 1905.

The substitution of steel for wood in passenger train cars was brought prominently before the railroads as a result of conditions imposed to meet the increasing economic and social development of the country. Increased train speed, together with greater train length, demanded greater strength and efficiency in construction. Wooden equipment afforded inadequate protection in wrecks due to fire and splintering of wooden sills; there was also a growing scarcity of suitable timbers for long cars.

Far sighted railroad officials desiring to improve these conditions as to safety and service brought about a period of transition and evolution in passenger train car.

Southern Pacific Acts

With the introduction of the steel passenger car and the merits of such equipment having been recognized by our officials, the Director of Maintenance and Operation of the Associated Lines, of which the Southern Pacific was a part, early in 1905 authorized the Southern Pacific Company to design an experimental steel coach.

PASSENGERS' SAFETY AND COMFORT INDUCED EARLY CONSTRUCTION

THE Southern Pacific Company was one of the first of the great railroad systems of the country to see the need of steel passenger cars as a factor in both safety and comfort of its patrons. Being a distinct departure from the standardized wooden coach, the construction of a suitable steel coach made necessary the solution of many engineering problems.

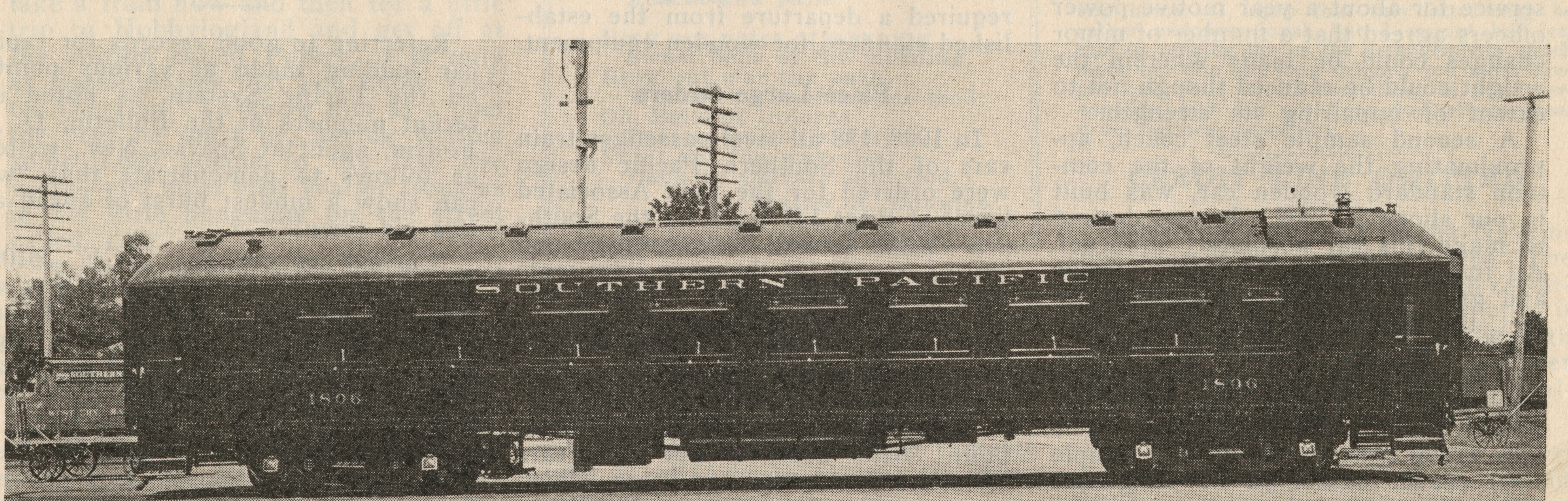
In 1905 the Company authorized the construction of an experimental steel coach to be built at the Sacramento Shops. Demonstrating the thoroughness of the plans of Southern Pacific engineers, the original steel coach, it is interesting to note, is still in service after more than fifteen years.

In the accompanying article, Mr. Mitchell writes an interesting story on the development of the steel coach and shows that the Southern Pacific Company is setting the pace in replacing wooden cars with steel equipment.

The wooden coach was the result of many years' study and development and was what may be termed a standardized unit. The steel car presented many new problems and there existed different opinions as to principles of construction that should govern in this new class of equipment. In designing the experimental car due consideration was afforded past practice in the design of the wooden car and such established principles as were practical were incorporated in the steel car.

The Southern Pacific experimental steel coach involved a number of original features in its construction. Conspicuous among these was the semi-elliptic or arched roof. The side frames were designed as a girder or truss in conjunction with the arched formation of the roof forming a very strong tubular section for the car body. This feature has been retained to date in all our steel main line passenger cars and is used also on our steel electric interurban, suburban and street cars. In fact, it has been retained by all the railroads that were associated in the Harriman Lines System.

Orders to proceed with the actual work on the experimental steel coach was received November 1, 1905, and requisitions for the necessary material were placed immediately. The car was built entirely in our Sacramento



The first steel coach ever built by the Southern Pacific Company. It was constructed in the Sacramento Shops fifteen years ago and is in daily service on the "Stockton Flyer," between Oakland and Stockton, Cal.

General Shops. The steel superstructure was made in the boiler shop and the cuban mahogany interior finish was manufactured in the cabinet shop. Construction was completed in July, 1906, and the new steel unit, numbered Southern Pacific 1806, was taken out on several test runs. It was again taken back to the shop for application of the axle generator and batteries for the electric lighting system. The general arrangement of the interior and general dimensions were the same as the common standard wooden coaches, with a seating capacity of 70 persons. All equipment applied was of the latest type at that time, among which were the double system of heating by steam and hot water, and combination gas and electric lighting systems.

The sample steel coach, Southern Pacific 1806, was produced at a cost of approximately $17,000, weighing complete 107,000 pounds, as against 88,000 pounds for the common standard wooden car, which cost about $8,500. It was the first passenger coach with steel superstructure and shortly after completion was exhibited at Chicago, where it was inspected by officials of various railroads. Barring usual shoppings and for the time it was exhibited at the Panama Pacific International Exposition in this city in 1915 as the first steel passenger train coach in America, it has been in service on our lines since September 13, 1906. It only became necessary to renew the original coat of paint on this car in January, 1920.

Sample Steel Postal Car

On June 11, 1906, work was started at Sacramento on a sample all steel postal car. This steel postal car, CP. 4097, was completed and placed in service April 13, 1907. Besides the all steel body, the inside lining or finish was of fireproof asbestos board, electric lighting system was also applied. It has been in service to date and no material changes have been made.

After steel coach 1806 had been in service for about a year motive power officers agreed that a number of minor changes could be made wherein the weight could be reduced though not to extent of impairing its strength.

A second sample steel coach, approximating the weight of the common standard wooden car, was built in our shops in 1908. It was desired to make this car absolutely fireproof. All inside finish was of steel painted and grained to imitate mahogany, in fact, the sashes and doors were all of steel. Fireproof composition flooring was applied; the seat frames were of steel and the upholstering materials treated to make them inflamable. The only wood used in the second sample steel coach, numbered SP-1845, was the small capping along the top of the window sill and the arm rest on the steel aisle seat pedestal. With adoption of steel outside and inside construction, it was necessary to insulate the whole car body between the walls against heat and cold.

CAR LOADING RECORD SET IN OCTOBER

DURING October the available equipment supply of the Southern Pacific Company was increased to the extent of 755 cars as compared to the corresponding month of 1920 as a result of an average loading of 28.3 tons per car, the heaviest average loading in the history of the company.

"Great credit is due agents and other officers and employes who by their diligence were responsible for bringing about this admirable result," was the comment of J. H. Dyer, General Manager. "It also indicates splendid co-operation from the shipping public."

Among the many new problems presented in these all-steel passenger train cars, which must operate in all climates, it was found to be a cardinal principle that as the outside steel surface was so extensive and capable of radiating so much heat into the atmosphere in extreme cold weather and the reverse in hot weather it was necessary to have a complete baffle between this outside steel surface and the interior surface of the car. To meet these new conditions an elaborate set of laboratory and service tests were made. Service tests were conducted during the summer in the hot valleys of California and Arizona and during the winter in the cold mountain regions.

Perhaps no problem was more illusive and received more consideration than the proper ventilation of the steel passenger train car. The Southern Pacific Company being pioneers in this type of equipment, in solution of the question to provide sufficient air to meet the hygienic needs of the passengers, conducted a long series of service tests. Heating systems also required a departure from the established standard for wooden equipment.

Place Large Orders

In 1908, 178 all steel passenger train cars of the Southern Pacific design were ordered for the then Associated lines; of these 147 were for the Southern Pacific Lines. One hundred and forty-five cars for the same lines were built in 1909, of which 137 were for our lines. The following year 334 all-steel passenger cars were ordered; 156 of these being built for the Southern Pacific Lines. In 1911, 27 steel combination baggage and mail cars were built. After some of our steel cars had been in service five years, which was considered sufficient length of time to develop defects in design or construction, a thorough inspection and investigation was carried out in 1912. This year marked the adoption of a heavier underframe and stronger end construction, though the general principles established in the first steel coach were found to meet normal service conditions. This change was made in anticipation of the gradual increasing weight of passenger trains. In addition to this, many minor improvements were made and to keep abreast with the advancement in the development of air brakes higher speed brakes were adopted.

The first steel dining cars, 14 in number, were built in 1912. As a further safety feature for passengers an anti-telescoping end frame was adopted for all-steel coaches and chair cars. The first application of this device was made in 1914. Space does not permit enumerating all of the detail improvements and safety measures added from time to time to all-steel passenger cars. No wooden passenger equipment has been built since 1910 and it has been the policy of the company to replace all wooden with steel equipment as older units are retired. All additional new units added have been of steel.

The latest equipment added is three new steel dining cars built at our Sacramento shops. The diners are 80 feet 5 inches in length with a dining room seating capacity of 36 passengers. They are capable of carrying 12,000 pounds of commissary equipment and supplies and when loaded weigh 156,900 pounds.

The following table shows the proportion all classes of steel and steel underframe passenger train cars to the total equipment owned by the Pacific System:

All-steel passenger train cars..	890
Steel underframe passenger train cars	37
Wooden	812
Total number of passenger cars owned by Pacific System ...	1739

SPARKS FORCE MAKES FAST RECORD ON CAR LOADING

Referring to good records for rapid car loading made at various points on the Pacific System, as noted in recent numbers of the Bulletin, D. J. Fodrin, agent at Sparks, Nev., writes as follows to demonstrate that "we can show a modest burst of speed at this old town:"

"Carload of oranges, FGE 26109, was spotted to transfer platform at 8:40 p. m. October 7, 1921, to be transferred account of broken draft rigging. Transfer was commenced at 8:40 p. m. and completed and car ordered out at 11 p. m. same date.

"Entire load was loaded in first class manner, stripped and braced according to specifications, and, considering that work was done at night, think this was a slight burst of speed. This car did not miss a connection passing this station, although transferred account bad order. H. L. Luttrell was foreman in charge."